## **Time Based Key-Value Store** (View)

Design a time-based key-value data structure that can store multiple values for the same key at different time stamps and retrieve the key's value at a certain timestamp.

Implement the TimeMap class:

- TimeMap () Initializes the object of the data structure.
- void set(String key, String value, int timestamp) Stores the key key with the value value at the given time timestamp.
- String get(String key, int timestamp) Returns a value such that set was called
  previously, with timestamp\_prev <= timestamp. If there are multiple such values, it
  returns the value associated with the largest timestamp\_prev. If there are no values, it
  returns "".</li>

## **Example 1:**

```
Input
["TimeMap", "set", "get", "get", "set", "get", "get"]
[[], ["foo", "bar", 1], ["foo", 1], ["foo", 3], ["foo", "bar2", 4], ["foo", 4],
["foo", 5]]
Output
[null, null, "bar", "bar", null, "bar2", "bar2"]
Explanation
TimeMap timeMap = new TimeMap();
timeMap.set("foo", "bar", 1); // store the key "foo" and value "bar" along with
timestamp = 1.
timeMap.get("foo", 1);
                             // return "bar"
timeMap.get("foo", 3);
                             // return "bar", since there is no value
corresponding to foo at timestamp 3 and timestamp 2, then the only value is at
timestamp 1 is "bar".
timeMap.set("foo", "bar2", 4); // store the key "foo" and value "bar2" along with
timestamp = 4.
timeMap.get("foo", 4);
                             // return "bar2"
timeMap.get("foo", 5);
                             // return "bar2"
```

## **Constraints:**

- 1 <= key.length, value.length <= 100
- key and value consist of lowercase English letters and digits.
- 1 <= timestamp <=  $10^7$
- All the timestamps timestamp of set are strictly increasing.
- At most 2 \* 105 calls will be made to set and get.